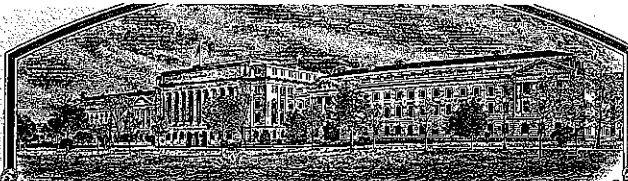


No.

200100266



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

United States Department of Agriculture; Agricultural Research Service
and The University of Nebraska - Lincoln

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE VARIETY. (U.S. STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT, COMMON

'Nuplains'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this eighteenth day of April, in the year two thousand two.

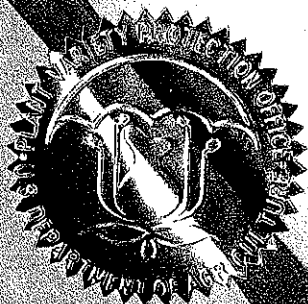
Attest:

Benjamin J. ...

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

William ...

Secretary of Agriculture



APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) at the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

07/01/02


1. NAME OF OWNER United States Department of Agriculture Agricultural Research Service and The University of Nebraska - Lincoln		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME N94L205		3. VARIETY NAME Nuplains	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) DR. R. A. GRAYBOSCH USDA/ARS, 344 KEIM HALL UNIVERSITY OF NEBRASKA P.O. BOX 830937 LINCOLN, NE 68583-0937		5. TELEPHONE (include area code) 402-472-1563		FOR OFFICIAL USE ONLY PVPO NUMBER 200100266	
6. FAX (include area code) 402-472-4020		FILING DATE August 28, 2001		FILING AND EXAMINATION FEES: \$ 2705.00 DATE 8/28/01 CERTIFICATION FEE: \$ 320.00 DATE 4/3/02	
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) U.S. GOVERNMENT		8. IF INCORPORATED, GIVE STATE OF INCORPORATION			
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) DR. R. A. GRAYBOSCH USDA/ARS, 344 KEIM HALL UNIVERSITY OF NEBRASKA P.O. BOX 830937 LINCOLN, NE 68583-0937					
11. TELEPHONE (Include area code) 402-472-1563		12. FAX (Include area code) 402-472-4020		13. E-MAIL RAC@UNL.SERVE.UNL.EDU	
14. CROP KIND (Common Name) Common wheat		15. GENUS AND SPECIES NAME OF CROP Triticum aestivum			
16. FAMILY NAME (Botanical) Triticeae		17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse) a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input type="checkbox"/> Filing and Examination Fee (\$2,705), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)					
19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? See Section 83(a) of the Plant Variety Protection Act <input checked="" type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input type="checkbox"/> NO (If "no", go to item 22)					
20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, WHICH CLASSES? <input checked="" type="checkbox"/> FOUNDATION <input checked="" type="checkbox"/> REGISTERED <input checked="" type="checkbox"/> CERTIFIED					
21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, SPECIFY THE <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED NUMBER 1,2,3, etc. (If additional explanation is necessary, please use the space indicated on the reverse.)					
22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U.S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES Sept. 7, 2000 <input type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)					
23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)					
24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.					
SIGNATURE OF OWNER 			SIGNATURE OF OWNER 		
NAME (Please print or type) ROBERT A. GRAYBOSCH			NAME (Please print or type) 		
CAPACITY OR TITLE RESEARCH GENETICIST		DATE 7-23-01		CAPACITY OR TITLE 	
				DATE 	

Exhibit A: PVP Application 200100266, hard white wheat 'Nuplains'. Exhibit modified 2/15/2002. Additions in **bold**.

Nuplains was selected from the cross 'Abilene'/KS831872 made in 1987. The pedigree of KS831872 is 'Plainsman V'/'Newton'/'Arthur 71' high protein selection. Nuplains is an F₅-derived line from a single head reselection of an F₃ derived line (N92L207) that resulted from a single plant selected in 1990. Nuplains was selected in the F₆ as a headrow and given the experimental line number N94L205 in 1994. Breeder seed of Nuplains originates from a composite of twenty-eight F₉ derived headrows which were selected for uniformity in plant type and white grain color in 1998. **Nuplains has been observed to be genetically uniform and stable over eight generations. During reproduction and multiplication, Nuplains was observed to carry variants with red grain color. These variants occur at a frequency of 0.7%, and may be recognized either by visual inspection of the seed, or by staining seed with dilute solutions of sodium or potassium hydroxide. Under such conditions, red grain will turn black, while white grain will retain its original color.**



200100266

United States Department of Agriculture

Research, Education, and Economics
Agricultural Research Service

Exhibit B: Statement of Distinctness -- 'Nuplains' hard white winter wheat

Nuplains is most similar to the hard red winter wheat cultivar 'Abilene'. Nuplains differs from Abilene in that it has white grain color, rather than red. It also is taller by an average of 9 cm. In northern Great Plains environments, Nuplains also reaches anthesis 3 days later (measured in number of days from 1/1) than Abilene. Finally, gliadin grain protein patterns of Nuplains, as determined by capillary-electrophoresis, are distinct from those of Abilene. Representative patterns are attached.

Robert Graybosch
Research Geneticist

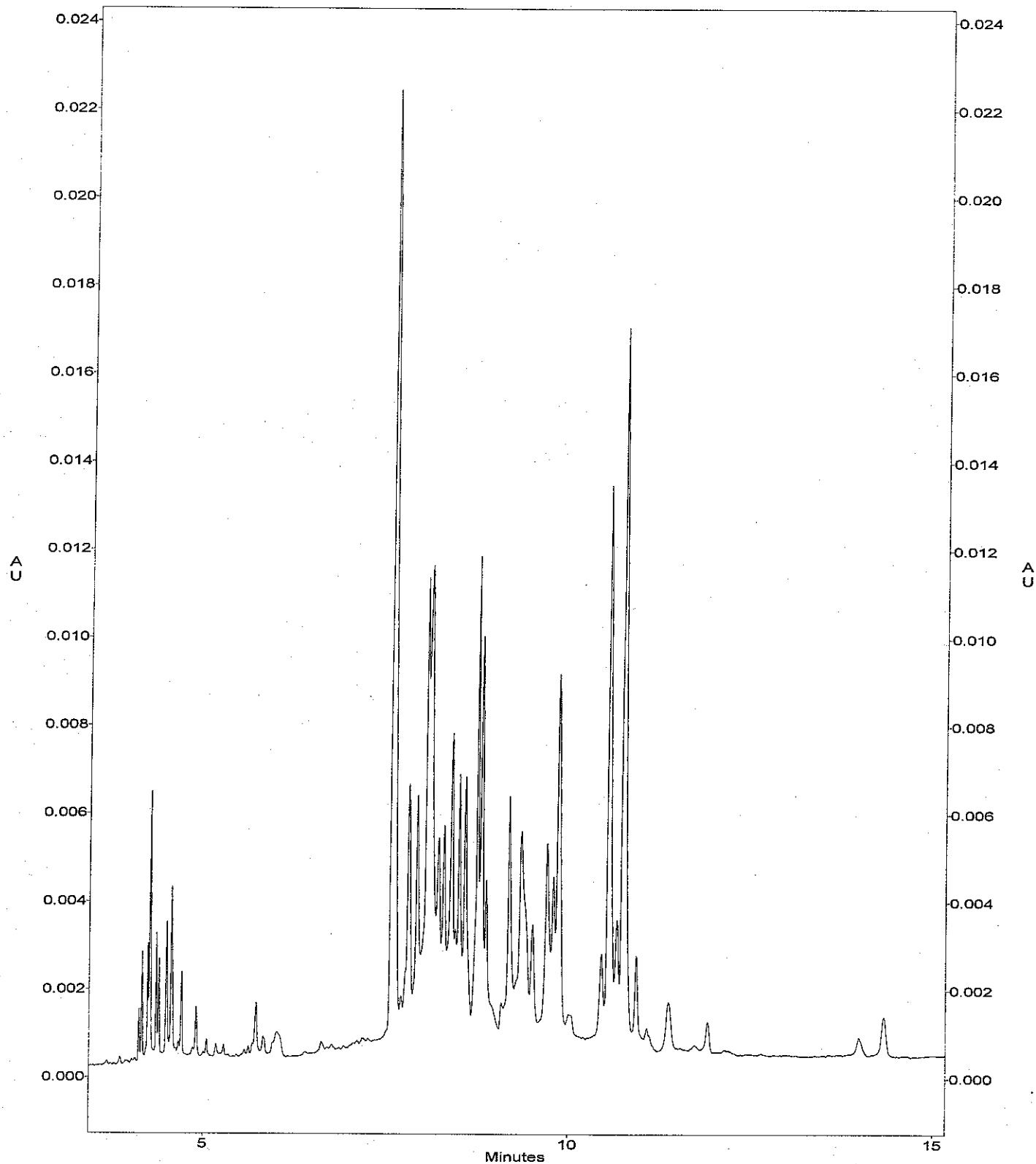
Wheat, Sorghum & Forages Research Unit

344 Keim Hall, University of Nebraska, Lincoln, Nebraska 69583-0934

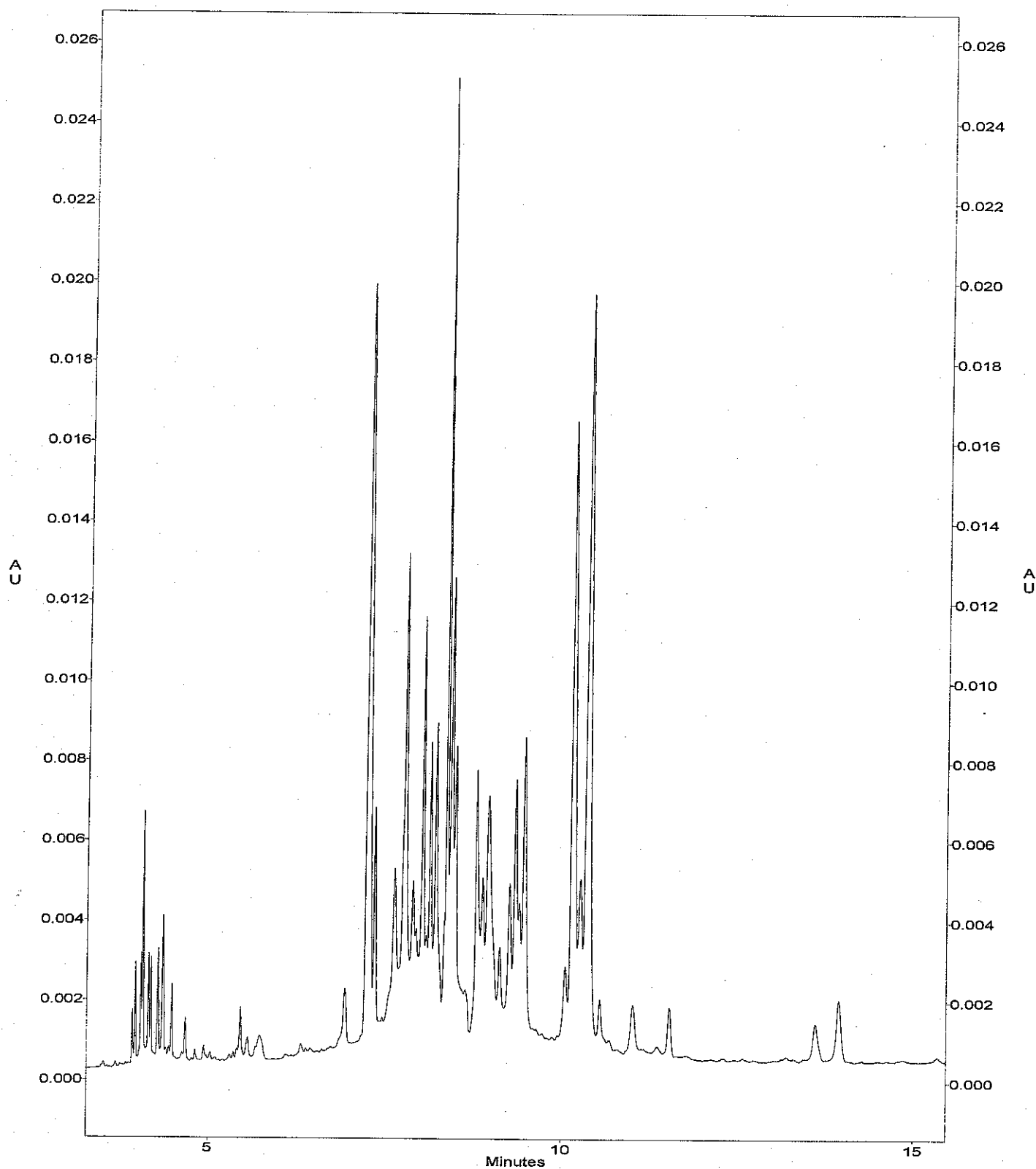
Phone: 402-472-1563 FAX: 402-472-4020 E-mail: rag@unlserve.unl.edu

Our Vision: A productive agriculture that maintains or improves soil, water, and air quality.

Nuplains., Channel A



Abilene., Channel A



According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 2 hours per response, including the time for reviewing existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

EXHIBIT C
(Wheat)

OBJECTIVE DESCRIPTION OF VARIETY
WHEAT (*Triticum* spp.)

NAME OF APPLICANT(S)	FOR OFFICIAL USE ONLY
	PVPO NUMBER
	VARIETY NAME
	TEMPORARY OR EXPERIMENTAL DESIGNATION

ADDRESS (Street and No. or RD No., City, State, and Zip Code)

PLEASE READ ALL INSTRUCTIONS CAREFULLY: Place the appropriate number that describes the varietal character of this variety in the boxes below. Place a zero in the first box (e.g. or) when number is either 99 or less or 9 or less respectively. Data for quantitative plant characters should be based on a minimum of 100 plants. Comparative data should be determined from varieties entered in the same trial. Royal Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used: Please answer all questions for your variety; lack of response may delay progress of your application.

1. KIND:

1=Common

2=Durum

3=Club

4=Other (SPECIFY):

2. VERNALIZATION:

1=Spring

2=Winter

3=Other (SPECIFY):

3. COLEOPTILE ANTHOCYANIN:

1=Absent

2=Present

4. JUVENILE PLANT GROWTH:

1=Prostrate

2=Semi-erect

3=Erect

5. PLANT COLOR (boot stage):

2

1 = Yellow-Green

2 = Green

3 = Blue-Green

6. FLAG LEAF (boot stage):

1 = Erect

2 = Recurved

1 = Not Twisted

2 = Twisted

7. EAR EMERGENCE:

Number of Days Earlier Than

Number of Days Later Than Abilene

8. ANTHOR COLOR:

1 = Yellow

2 = Purple

9. PLANT HEIGHT (from soil to top of head, excluding awns):

cm Taller Than Abilene *

cm Shorter Than _____ *

* Relative to a PVPO-Approved Commercial Variety Grown in the Same Trial

10. STEM:

A. ANTHOCYANIN

1 = Absent

2 = Present

B. WAXY BLOOM

1 = Absent

2 = Present

C. HAIRINESS (last internode of rachis)

1 = Absent

2 = Present

D. INTERNODE (SPECIFY NUMBER)

1 = Hollow

2 = Semi-solid

3 = Solid

E. PEDUNCLE

1 = Absent

2 = Present

cm Length

11. HEAD (at Maturity):

A. DENSITY

1 = Lax

2 = Middense

3 = Dense

B. SHAPE

1 = Tapering

2 = Strap

3 = Clavate

4 = Other (SPECIFY):

oblong

C. CURVATURE

1 = Erect

2 = Inclined

3 = Recurved

D. AWNEDNESS

1 = Awnless

2 = Apically Awnletted

3 = Awnletted

4 = Awned

12. GLUMES (at Maturity):

A. COLOR

1 = White

2 = Tan

3 = Other (SPECIFY): _____

C. BEAK

1 = Obtuse

2 = Acute

3 = Acuminate

B. SHOULDER

1 = Wanting

2 = Oblique

3 = Rounded

4 = Square

5 = Elevated

6 = Apiculate

D. LENGTH

1 = Short

2 = Medium

(ca. 7mm)

(ca. 8mm)

3 = Long (ca. 9mm)

12. GLUMES (at Maturity) Continued:

200100266

E. WIDTH

- ☒ 1 = Narrow (ca. 3mm) 2 = Medium (ca. 3.5mm)
☐ 2 3 = Wide (ca. 4mm)

13. SEED:

A. SHAPE

- ☒ 1 = Ovate 2 = Oval 3 = Elliptical

C. BRUSH

- ☒ 1 = Short 2 = Medium 3 = Long
☒ 1 = Not Collared 2 = Collared

B. CHEEK

- ☒ 1 = Rounded 2 = Angular

D. CREASE

- ☒ 1 = Width 60% or less of Kernel
☐ 2 = Width 80% or less of Kernel
☐ 3 = Width Nearly as Wide as Kernel
☒ 1 = Depth 20% or less of Kernel
☐ 2 = Depth 35% or less of Kernel
☐ 3 = Depth 50% or less of Kernel

E. Color

- ☒ 1 = White 2 = Amber 3 = Red
☐ 4 = OTHER (Specify)

G. PHENOL REACTION (see instructions):

- ☐ 1 = Ivory 2 = Fawn
☐ 3 = Light Brown 4 = Dark Brown
☐ 5 = Black

F. TEXTURE

- ☒ 1 = Hard 2 = Soft

14. DISEASE: (0=Not Tested; 1=Susceptible; 2=Resistant; 3=Intermediate; 4=Tolerant)

PLEASE INDICATE THE SPECIFIC RACE OR STRAIN TESTED

- | | |
|--|---|
| <input checked="" type="checkbox"/> 2 Stem Rust (<i>Puccinia graminis</i> f. sp. <i>tritici</i>) | <input checked="" type="checkbox"/> 3 Leaf Rust (<i>Puccinia recondita</i> f. sp. <i>tritici</i>) |
| <input checked="" type="checkbox"/> 1 Stripe Rust (<i>Puccinia striiformis</i>) | <input type="checkbox"/> Loose Smut (<i>Ustilago tritici</i>) |
| <input type="checkbox"/> Tan Spot (<i>Pyrenophora tritici-repentis</i>) | <input type="checkbox"/> Flag Smut (<i>Urocystis agropyri</i>) |
| <input type="checkbox"/> Halo Spot (<i>Selenophoma donacis</i>) | <input type="checkbox"/> Common Bunt (<i>Tilletia tritici</i> or <i>T. laevis</i>) |
| <input type="checkbox"/> <i>Septoria nodorum</i> (Glume Blotch) | <input type="checkbox"/> Dwarf Bunt (<i>Tilletia controversa</i>) |
| <input type="checkbox"/> <i>Septoria avenae</i> (Speckled Leaf Disease) | <input type="checkbox"/> Karnal Bunt (<i>Tilletia indica</i>) |
| <input type="checkbox"/> <i>Septoria tritici</i> (Speckled Leaf Blotch) | <input type="checkbox"/> Powdery Mildew (<i>Erysiphe graminis</i> f. sp. <i>tritici</i>) |
| <input type="checkbox"/> Scab (<i>Fusarium</i> spp.) | <input type="checkbox"/> "Snow Molds" |

PLEASE INDICATE THE SPECIFIC RACE OR STRAIN TESTED

- | | |
|--|---|
| <input type="checkbox"/> "Black Point" (Kernel Smudge) | <input type="checkbox"/> Common Root Rot (<i>Fusarium</i> , <i>Cochliobolus</i> and <i>Bipolaris</i> spp.) |
| <input checked="" type="checkbox"/> Barley Yellow Dwarf Virus (BYDV) | <input type="checkbox"/> Rhizoctonia Root Rot (<i>Rhizoctonia solani</i>) |
| <input checked="" type="checkbox"/> Soilborne Mosaic Virus (SBMV) | <input type="checkbox"/> Black Chaff (<i>Xanthomonas campestris</i> pv. <i>translucens</i>) |
| <input type="checkbox"/> Wheat Yellow (Spindle Streak) Mosaic Virus | <input type="checkbox"/> Bacterial Leaf Blight (<i>Pseudomonas syringae</i> pv. <i>syringae</i>) |
| <input checked="" type="checkbox"/> Wheat Streak Mosaic Virus (WSMV) | <input type="checkbox"/> Other (SPECIFY) |
| <input type="checkbox"/> Other (SPECIFY) | <input type="checkbox"/> Other (SPECIFY) |
| <input type="checkbox"/> Other (SPECIFY) | <input type="checkbox"/> Other (SPECIFY) |
| <input type="checkbox"/> Other (SPECIFY) | <input type="checkbox"/> Other (SPECIFY) |

15. INSECT: (0=Not Tested; 1=Susceptible; 2=Resistant; 3=Intermediate; 4=Tolerant)

PLEASE SPECIFY BIOTYPE (where needed)

- | | |
|---|--|
| <input checked="" type="checkbox"/> Hessian Fly (<i>Mayetiola destructor</i>) | <input type="checkbox"/> Other (SPECIFY) |
| <input type="checkbox"/> Stem Sawfly (<i>Cephus</i> spp.) | <input type="checkbox"/> Other (SPECIFY) |
| <input type="checkbox"/> Cereal Leaf Beetle (<i>Oulema melanopa</i>) | <input type="checkbox"/> Other (SPECIFY) |
| <input checked="" type="checkbox"/> Russian Aphid (<i>Diuraphis noxia</i>) | <input type="checkbox"/> Other (SPECIFY) |
| <input type="checkbox"/> Greenbug (<i>Schizaphis graminum</i>) | <input type="checkbox"/> Other (SPECIFY) |
| <input type="checkbox"/> Aphids | <input type="checkbox"/> Other (SPECIFY) |

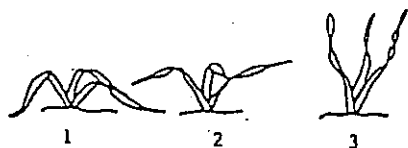
16. Does the variety contain any genetic material introduced (into this variety or a parent) using the biotechnology techniques of cloning and genetic transformation? (I.e. "genetic transformation")?

☐ Yes ☒ No

17. ADDITIONAL INFORMATION ON ANY ITEM ABOVE, OR GENERAL COMMENTS

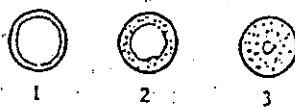
WHEAT DESCRIPTOR ILLUSTRATIONS

2. EARLY PLANT GROWTH HABIT:



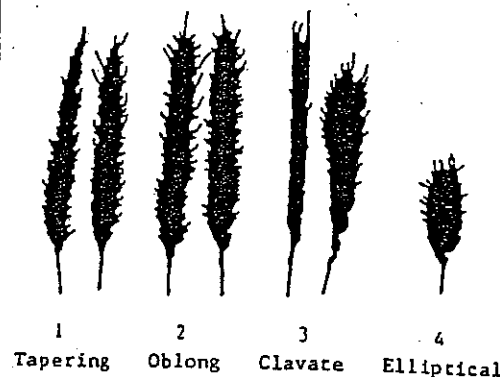
1 Prostrate 2 Intermediate 3 Erect

STEM INTERNODE X-SECTION



1 Hollow 2 Semi-Solid 3 Solid

SPIKE SHAPE



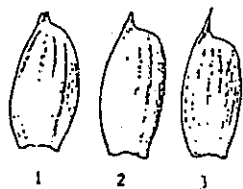
1 Tapering 2 Oblong 3 Clavate 4 Elliptical

AWNEDNESS:



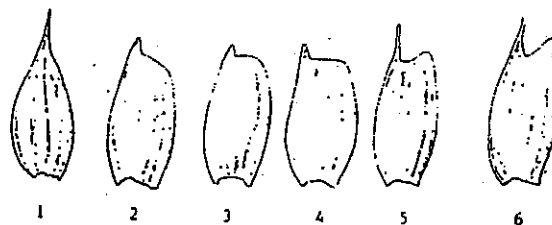
1 Awnless 2 Apically Awnleted 3 Awnleted 4 Awned

BEAK SHAPE:



1 Obtuse 2 Acute 3 Acuminate

SHOULDER SHAPE:



1 Wanting 2 Oblique 3 Rounded 4 Square 5 Elevated 6 Apiculate

SEED SHAPE:



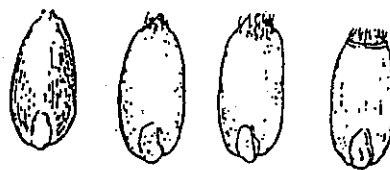
1 Ovate 2 Oval 3 Elliptical

BEAK SHAPE:



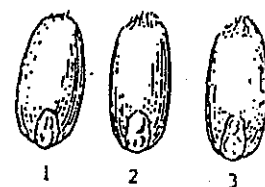
1 Rounded 2 Angular

BRUSH SIZE:



1 Small 2 Midsized 3 Large 4 Collared

BRUSH HAIR LENGTH



1 Short 2 Medium 3 Long

GERM (EMBRYO) SIZE:



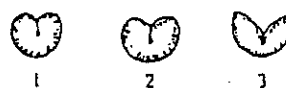
1 Small 2 Midsized 3 Large

SEED CREASE WIDTH:



1 Narrow 2 Mid-Wide 3 Wide

SEED CREASE DEPTH:



1 Shallow 2 Mid-Deep 3 Deep

Exhibit D. Additional description of the variety

Nuplains is an awned, white-glumed, semidwarf cultivar with straw strength superior to 'Arapahoe'. Plant height of Nuplains has averaged 3 cm shorter than '2137' and 10 cm shorter than Arapahoe. It has a short coleoptile, similar to 'Jagger' and 'TAM 107'. Winterhardiness is adequate for Nebraska growing conditions; less than 'Alliance' and Arapahoe, similar or slightly less than 'Karl 92', but superior to 'Oro Blanco', 'Rio Blanco' and Jagger. Nuplains is a medium maturing cultivar under Nebraska conditions, with heading date averaging 2 to 3 days earlier than Arapahoe.

Nuplains has exhibited adult-plant and seedling resistance to stem rust (caused by *Puccinia graminis Pers.: Pers.*) based on seedling and field tests conducted by the USDA Cereal Disease Laboratory. Nuplains is moderately susceptible to current races of leaf rust (caused by *Puccinia recondita Roberge ex Desmaz.*) and is susceptible to soilborne mosaic virus, wheat streak mosaic virus, the Great Plains biotype of Hessian fly (*Mayetiola destructor* (Say)), and the Russian wheat aphid (*Diuraphia noxia* (Mordvilko)).

Nuplains was tested in Nebraska breeding nurseries starting in 1994 and in the Western Plains Regional Performance Nursery in 1998. It was tested in the Nebraska Fall Sown Cereal Variety Trials statewide in 1998 and 1999. In 30 site-years of Nebraska state variety trials, grain yield of Nuplains averaged 4149 kg ha⁻¹, similar to that for Arapahoe at 4129 kg ha⁻¹, but less than 2137 at 4539 kg ha⁻¹. Test weight of Nuplains averaged 777 kg m⁻³, compared with 755 kg m⁻³ for Arapahoe and 769 kg m⁻³ for 2137. Nuplains appears to be best suited for dryland production areas in south central and southwest Nebraska and to similar production areas in adjacent states. It has also shown promise for use in irrigated production systems in southwest and western Nebraska.

The milling and baking properties of Nuplains were determined by the Nebraska Wheat Quality Laboratory and by the USDA-ARS Grain Marketing and Production Research Center at Manhattan, KS. Grain protein content of Nuplains has been similar to Arapahoe. Nuplains has mellow dough mixing properties, similar to its parent Abilene, with acceptable mixing tolerance. On average, mixing time and tolerance ratings were slightly lower than those for Arapahoe. Bake absorption of Nuplains has been higher than for Arapahoe. Loaf volume, internal, and external loaf appearance have been equal or superior to Arapahoe, suggesting acceptable bread quality characteristics. Nuplains was evaluated by commercial milling and baking companies through the Wheat Quality Council in 1998-99. It was found to have acceptable end-use quality for commercial bread applications and was generally rated as similar to 'Scout 66' in dough handling characteristics and baking performance.

Nuplains was evaluated for use in Asian noodle products by the Wheat Marketing Center, Portland, OR. In Taiwanese raw and Hokkien style noodle evaluations,

Nuplains has received acceptable ratings for dough handling, machining properties, and noodle texture. Noodle color ratings for Nuplains varied, but were generally considered as less than desirable due to discoloration after 24 hrs of storage. Nuplains has been shown to have intermediate levels of Polyphenol Oxidase activity, higher than 'Platte', but less than 'Arlin'.

Grain samples from 1997 and 1998 were provided to USDA-GIPSA for classification purposes. Grain color of Nuplains was considered as acceptable for the hard white wheat class. Nuplains possesses an intermediate level of resistance to weather-induced pre-harvest sprouting. Falling number evaluations conducted on grain samples from 13 Nebraska locations in 1999 showed that Nuplains has superior sprouting resistance compared with the hard white wheats 'Betty' and Arlin. Sprouting resistance of Nuplains was considered comparable to Rio Blanco and 'Trego', but less than resistance observed among hard red winter wheat varieties such as Arapahoe or 2137.

The Breeder seed class of Nuplains will be maintained by the Nebraska Foundation Seed Division, Department of Agronomy, University of Nebraska-Lincoln, Lincoln, NE 68583. Other recognized seed classes are Foundation, Registered, and Certified as per AOSCA standards. By agreement, the Nebraska Seed Certification procedures provide that the Registered seed class is nonsaleable. Nuplains will be submitted for registration and U.S. Plant Variety Protection under Public Law 10577 with the certification (Title V) option. Seed of Nuplains has been deposited in the USDA National Small Grains Collection, Aberdeen, Idaho. It is requested that the source of this material be acknowledged in future usage by wheat breeding and genetics programs.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

EXHIBIT E **STATEMENT OF THE BASIS OF OWNERSHIP**

1. NAME OF APPLICANT(S) United States Department of Agriculture Agricultural Research Service	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER N946205	3. VARIETY NAME Nuplains
4. ADDRESS DR. R. A. GRAYBOSCH USDA/ARS, 344 KEIM HALL UNIVERSITY OF NEBRASKA P.O. BOX 830937 LINCOLN, NE 68583-0936	5. TELEPHONE (include area code) 402-472-1563 7. PVPO NUMBER 200100266	6. FAX (include area code) 402-472-4020

8. Does the applicant own all rights to the variety? Mark an "X" in appropriate block. If no, please explain. ☒ YES ☐ NO

9. Is the applicant (individual or company) a U.S. national or U.S. based company? If no, give name of country ☒ YES ☐ NO

10. Is the applicant the original owner? ☒ YES ☐ NO *If no, please answer one of the following:*

a. If original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. national(s)?

☐ YES ☐ NO *If no, give name of country*

b. If original rights to variety were owned by a company(ies), is(are) the original owner(s) a U.S. based company?

☐ YES ☐ NO *If no, give name of country*

11. Additional explanation on ownership (if needed, use reverse for extra space):

PLEASE NOTE:

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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